## AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listing, of claims in the application:

- 1. (Currently Amended) A method for improving throughput in continuous electrodialysis processes, the method comprising automatically neutralizing acid generated in acid loop solutions residing in an electrodialysis stack in strong acid/weak base configurations and neutralizing base generated in base-loop solutions residing in an electrodialysis stack in weak acid/strong base configurations including <u>directly</u> adding a buffer to the solutions, wherein said buffer is regenerated continuously and external to the electrodialysis stack and wherein said buffer keeps the solutions within a desired pH.
- 2. (Previously Presented) The method as recited in claim 1 wherein the process involves the formation of an acidic solution in the electrodialysis stack and said buffer is added to the solution.
- 3. (Previously Presented) The method as recited in claim 1 wherein the process involves the formation of a basic solution and said buffer is added to the solution.

## 4. (Cancelled)

- 5. (Previously Presented) The method as recited in claim 1 wherein the buffering agent is premixed with a solution situated remotely from the stack.
- 6. (Original) The method as recited in claim 1 wherein a buffering agent is added at ambient temperature.
- 7. (Original) The method as recited in claim 1 wherein the electrodialysis process operates at a temperature which ranges from about 15°C to 40°C.

## 8. (Cancelled)

- 9. (Previously Presented) The method as recited in claim 1 wherein the anionic and cationic moieties are added to the ED system as solids, liquids, gases, solutions or any combination thereof.
- 10. (Original) The method as recited in claim 1 wherein for an electrodialysis solution that will become acidic, a buffer pair is created by adding an acid and a metal hydroxide to the "acid-loop" stream.
- 11. (Original) The method as recited in claim 1 wherein for an electrodialysis solution that is already acidic, a buffer pair is created by adding a metal salt of the acid's conjugate base to the "acid-loop" stream.
- 12. (Original) The method as recited in claim 1 wherein for an electrodialysis solution that will become basic, a buffer pair is created by the addition of a base and its conjugate acid to the "base-loop" stream.
- 13. (Original) The method as recited in claim 1 wherein for an electrodialysis solution that is already basic, a buffer pair is created by the addition of an acid to the "base-loop" stream that contains, as its conjugate base, the base present in the ED electrolyte solution.
- 14. (Currently Amended) A process for maintaining the pH of <u>cationic and anionic</u> electrodialysis membranes in electrodialysis cell compartments, the process comprising controlling the pH in an acid-loop or base-loop solution created by the electrodialysis cell in operation within two pH units, the process including adding a buffer <u>directly</u> to the solutions, wherein the buffer is regenerated continuously and external to the electrodialysis cell components and concentrations of the anionic and cationic moieties of said buffer are dependent upon a desired pH.

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- 15. (Previously Amended) The process as recited in claim 14 wherein a buffer solution is a means of maintaining the pH of the ED acid solution to within one pH unit.
- 16. (Original) The method as recited in claim 15 wherein the buffer solution is supplied to the cell compartments via a tank external to the cell compartments.
- 17. (Original) The method as recited in claim 14 wherein controlling the pH in the acid-loop is a means of protecting bipolar membranes and their active sites.
- 18. (Original) The process as recited in claim 15 wherein the buffering solution is added at ambient temperature.
- 19. (Original) The method as recited in claim 14 wherein the electrodialysis cell operates at a temperature which ranges from about 15°C to 40°C.
- 20. (Previously Amended) The method as recited in claim 14 wherein a buffer solution is added to the stack to maintain the pH of solutions within the stack to within 1 pH unit of said desired pH.